UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,907	11/13/2001	Takeshi Mitsuishi	8071.0007	6647

22852 7590 09/06/2005

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
PRITCHETT, JOSHUA L	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/986,907	MITSUISHI ET AL.
	Examiner	Art Unit
	Joshua L. Pritchett	2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4 and 6-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,9-20/1,3,4* is/are rejected.

7)☒ Claim(s) *6-8,9-17/6 and 9-17/8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Amendment filed July 29, 2005. All applicant's arguments have been considered.

Claim Objections

Claims 3, 4, 6-8, 9-17/6 and 9-17/8 are objected to because of the following informalities: the claims include parenthetical statements. The examiner suggests changing, "weight of niobium oxide (calculated in terms of Nb_2O_5), from" to, "weight of niobium oxide, calculated in terms of Nb_2O_5, from." Similar changes are suggested for each of the parenthetical instances.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Belleville (US 6,387,517).

Regarding claim 1, Belleville teaches a composition comprising niobium oxide, zirconium oxide, yttrium oxide and aluminum oxide (col. 7 lines 4-15).

Regarding claims 3 and 4, Belleville teaches a composition comprising 60-90% by weight niobium oxide, 5-20% by weight zirconium oxide (col. 7 lines 13-14). Belleville teaches that any of these oxides may be present in amounts ranging from 1-99% by weight. Therefore the amount of any one specific oxide and the presence of any of the other oxides in the compound would be anticipated by Belleville.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-14/1, 9-14/3 and 9-14/4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belleville in view of Rahilly (US 4,116,717).

Regarding claims 9, 13, 14 and 18, Belleville teaches the use of vaporization of the compound (col. 1 lines 54-56) and deposition of the vapor onto the substrate (col. 1 line 51-53).

Belleville teaches an alternating layer fashion (Fig. 4) and at least one layer of silicon dioxide (col. 16 lines 1-3). Belleville lacks reference to the use of sintering of the compound prior to vaporization. Rahilly teaches the use of sintering an antireflective compound prior to applying the compound to a substrate (col. 3 lines 23-28). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use sintering as taught by Rahilly to form a solid mass of the compound prior to vaporizing the compound and depositing the compound on the substrate as taught by Belleville for the purpose of having a more uniform composition throughout the layer on the substrate and therefore obtaining more reliable results.

Regarding claim 10, Belleville teaches the substrate being made of plastic (col. 9 lines 16-17).

Regarding claim 11, Belleville teaches the plastic substrate having one or more coating layers (Fig. 4).

Regarding claim 12, Belleville teaches an ion-assisted process (col. 1 lines 56-57).

Claims 15-17/1, 15-17/3, 15-17/4, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belleville in view of Rahilly as applied to claims 9/1, 12/1 and 18 above, and further in view of Asai (US 5,116,644).

Regarding claims 15, 16 and 19, Belleville in combination with Rahilly teaches the invention as claimed but lacks reference to the use of a hard coat layer. Asai teaches the use of a hard coat layer (col. 1 lines 33-34). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the Asai hard coat layer in the Belleville invention for the purpose of giving the antireflective element greater durability.

Regarding claims 17 and 20, Belleville teaches the optical element being a lens for spectacles (col. 13 line 36).

Allowable Subject Matter

Claims 6-8, 9-17/6 and 9-17/8 would be allowable if rewritten or amended to overcome the objections, set forth in this Office action.

Regarding claim 6, claim 6 is allowable over the prior art of record because the prior art fails to teach or suggest the claimed weight percent of each oxide in the composition. Belleville is sufficient to teach the weight percent of any single oxide from 1-99%, but is not sufficient to teach the claimed weight percent composition involving the three separate oxides.

Regarding claims 7-8, 9-17/6 and 9-17/8 depend either directly or indirectly from claim 6 and are therefore allowable for the same reasons as claim 6.

Response to Arguments

Applicant's arguments filed Amendment filed July 29, 2005 have been fully considered but they are not persuasive.

On page 2, applicant argues that Although Belleville suggests a possibility that a composition might comprise a mixture of oxides that might be selected from among the recited

oxides Belleville does not teach the combination. Based on the Belleville disclosure the claimed combination of oxides is known in the art and therefore not patentable.

On pages 2 and 3, applicant argues the Office failed to address the teaching of a genus does not render a combination obvious and cites the decision In re Baird. The In re Baird case is not related to 35 U.S.C. 102, which is the rejection stated above, but instead is directed toward 35 U.S.C. 103. The breadth of the ranges in the claim limitations also leads the examiner to believe the In re Baird case would not apply because the "combination" is not sufficiently narrow to reasonable separate it from the "genus." Furthermore, even if the rejection above were a 35 U.S.C. 103 rejection the decision In re Wertheim states, "overlap or lie inside ranges disclosed by the prior art are prima facie case of obviousness." (MPEP 2144.05) Clearly the claimed ranges "lie inside" the ranges "disclosed" in the Belleville reference. The applicant further argues that the broad range of Belleville does not suggest the appropriate amount for any particular oxide. The examiner holds that the breadth of the Belleville reference is sufficient to meet limitations regarding the amount of any single oxide but cannot meet limitations regarding amounts of different oxides.

On page 4, applicant argues that there is no reasonable expectation of success in the combination of Belleville and Rahilly. The applicant points out that the tantalum oxide cited by the examiner as an oxide used in both Belleville and Rahilly is not in the current claim limitations. The examiner used to tantalum oxide reference to show that the similarities between the Belleville and Rahilly references is more than just the same field of endeavor, namely that the references actually teach depositions of similar compounds. The fact that Belleville uses a

different method of deposition does not mean that the deposition methods of Rahilly would not work within the Belleville reference only that Belleville prefers different methods.

On page 5, applicant argues that there is no evidence to support the examiner's statement of motivation. As the applicant states later in the arguments the motivation to combine reference can be based on the knowledge of those skilled in the art. Those skilled in the art know that sintering and vaporization would allow the different oxides to achieve a more even distribution throughout the composition, thus minimizing concentration gradients. If the composition were did not have the minimal concentration gradients the antireflective layer would produce uneven results where the concentration of a one of the oxides was higher than the concentration of the same oxide in a different portion of the layer.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP

DREW A. DUNN
SUPERVISORY PATENT EXAMINER